

Local Curriculum Guide				Quarter: 1st 9 Weeks Number of Days: 5		
Course Name:	Physical Science					
Unit Title:	Density and Phases					
			Instructional Learning Plan			
Standards	Student Friendly Objectives	Assessment/Evidence of Proficiency	Possible Instructional Strategies	Materials/Resources	Essential Vocabulary	Informational skills integration (technology)
	TSW compare and contrast mass and volume by collecting and analyzing data.		Change in Mass Lab - Have students mass various items before and after a change (Such as pulling apart steel wool, melting ice, performing a reaction, alka-seltzer in water). Help students develop the idea that mass is the amount of particles/stuff in the sample.	Balance AND Steel Wool, Sugar+Water, Alka-Seltzer+Water, Ice, etc	Mass, Balance, Physical property	
		Venn Diagram or other comparative graphic organizer characterizing mass and volume.	Measuring Volume Lab - Have students measure the volume of plastic shapes using geometric measurements and water displacement. Help students develop the idea that volume is the amount of space something occupies.	Graduated Cylinders, Rulers, Plastic Shapes (preferably hollow, ask your geometry teacher)	Volume, Graduated Cylinder	
PSc.2.1.3	TSW define density by collecting and analyzing mass and volume data.		Density Lab - Have students determine the mass and volume of multiple sizes of the same material. Have groups do multiple materials, or have each group do a different material. Graphing Mass vs Volume will produce straight lines for each material. Define this quantity as density and introduce $D=m/V$.	Density Blocks OR cut up metal dowels (Lowes-Aluminum & Steel)	Density	
	TSW solve problems by manipulating $D=m/V$.			Math triangle for density		
PSc.2.1.2	TSW differentiate between solids, liquids, and gases by describing their characteristics		Create particle representations of each phase by observing and comparing properties. Use Eureka videos to summarize predictions.	Youtube Eureka Video Episode 16 & 17 "Molecules in Solids" & "Molecules in Liquids" & "Expansion & Contraction"	Solid, Liquid, Gas PhET Interactive Simulations: States of matter	
	TSW investigate phase changes by performing and observing an experiment.		Have students graph the temperature of a beaker of "ice" as it melts, raises in temperature, and comes to a boil. Have students represent the changes in particle density, motion, etc as the ice changes.	Hot Plate, Thermometers (Or Electronic GoTemp or similar), Graph Paper (or LoggerPro), Beaker of Ice	Phase Change Freezing, Melting, Boiling/Vaporization Condensing, Deposition, Sublimation	HS.TT.1.1 Use logger pro to collect data to analyze temperature data
			Compare dry ice and wet ice. Simple observations about their motion on the counter, appearance, and put each in a balloon.			
	TSW identify and explain the regions of a heating curve.			http://www.kentchemistry.com/links/Matter/HeatingC	Heating Curve	